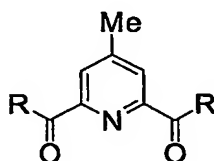


CLAIMS.

- 5 1. A method for preparing a supported catalyst component for the production of hollow beads of polyethylene of controlled size and morphology that comprises the step of:

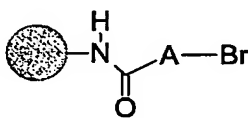
a) providing a first component of general formula II



(II)

wherein R is the same and is an alkyl having from 1 to 20 carbon atoms;

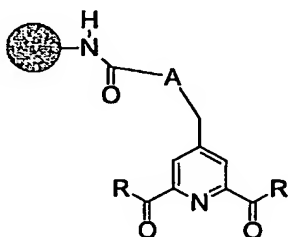
- b) providing a porous functionalised bead of polystyrene of the general formula III



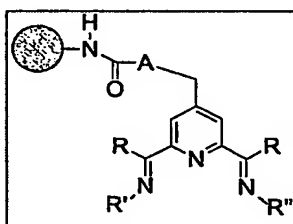
(III)

wherein the flexible arm A is a substituted or unsubstituted alkyl having from 2 to 18 carbon atoms;

- c) creating a covalent bond between the component of step a) and the porous functionalised bead of step b) to produce a complex of formula IV

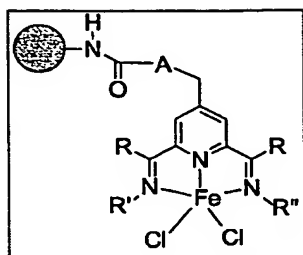


- 5 d) reacting the supported component of step c) with a first alkyl- or aryl-amine $R'-NH_2$ and with a second alkyl- or aryl-amine $R''-NH_2$ wherein R' and R'' are the same or different, to prepare a bis-imine complex of general formula V



(V)

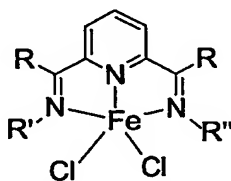
- e) reacting the bis-imine of step d) with ferric chloride $FeCl_3$ in a solvent to obtain the final catalyst component of general formula VI



(VI)

2. The method of claim 1 wherein flexible arm A contains from 3 to 6 carbon atoms.
3. The method of claim 1 wherein the R are the same and are alkyl groups having from 1 to 4 carbon atoms.
4. The method according to any one of claims 1 to 3 wherein R' and R'' in the alkyl- or aryl-amines are the same and are substituted or unsubstituted phenyls.
5. The method of claim 4 wherein the phenyls are substituted with isopropyl groups at positions 2 and 6.
6. The method of claim 4 wherein the phenyls are substituted with methyl groups at positions 2, 4 and 6.
7. A supported catalytic component obtainable by the method according to any one of claims 1 to 6.
8. A method for preparing hollow beads of polyethylene of controlled size and morphology that comprises the steps of:

- a) providing a supported catalyst component as prepared in any one of claims 1 to 6, wherein the support is a porous functionalised bead of polystyrene and wherein the catalyst component is covalently bound to the support and is an iron-based complex of the general formula I



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(I)

wherein R, R' and R'' are as defined in any one of claims 1 to 6;

- b) activating the supported catalyst component with a suitable activating agent;
- 10 c) feeding the ethylene monomer;
- d) maintaining under polymerisation conditions;
- e) retrieving hollow beads of polyethylene of controlled shape and size.

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9. The method of claim 8 wherein the activating agent is methylaluminoxane.

10. Hollow beads of polyethylene of controlled morphology and size obtainable by the method of claim 8 or claim 9.

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